IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Applicants: Date: June 20, 2008

Beaman et al. Group Art Unit: 2829

Serial No.: 09/251,988 Examiner: J. M. Hollington

Filed: February 17, 1999 Docket No.: YOR91999088US1

For: STRUCTURAL DESIGN AND PROCESSES TO CONTROL PROBE POSITION ACCURACY IN A WAFER TEST PROBE ASSEMBLY

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

PRE-APPEAL BRIEF

In response to the Office Action dated December 21, 2008 and the Advisory Action dated March 28/2008, please consider the following Pre-Appeal Brief:

ARGUMENT

In the Final Office Action claims 7, 10, 41-43, 49, 51, 58-60 and 64-68 have been rejected as being anticipated by Okubu et al. (US 5,134,356) Applicants respectfully disagree and request reversal of this rejection.

Each rejected claim depends directly or indirectly from claim 41 which recites, "providing a means for maintaining said plurality of said second ends in substantially fixed positions with respect to each other." There is no teaching of this in Okubu et al., and the Examiner does not identify any such teaching. Okubu et al., explicitly reaches away from this recitation. Applicants claim 67 explicitly recites "said means for maintaining comprises openings which are larger in size than said elongated electrical conductors. Okubu et al has no such teaching and the Examiner does not identify any such teaching in Okubu et al.

At page 4 of the Referenced Final rejection the Examiner states "Applicant's arguments filed June 4, 2007 have been fully considered but they are not persuasive." The Examiner quotes applicants June 4, 2007 arguments stating:

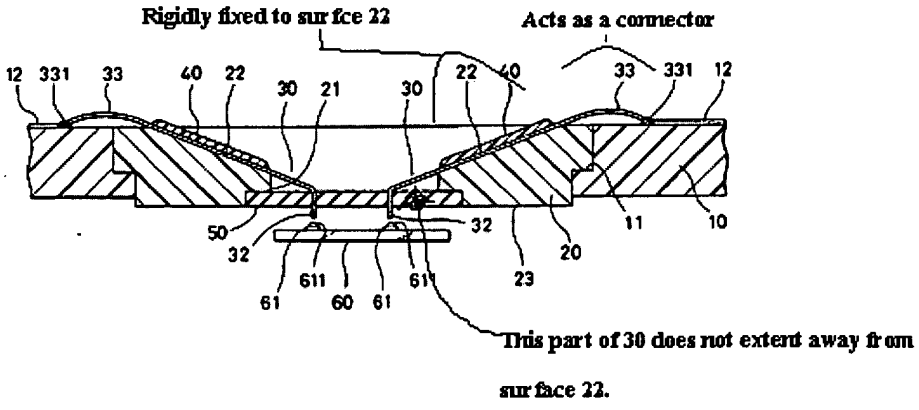
> a) The applicants argue: *"The Examiner does not identify where in the teaching of Okubo elements 30 thereof is referred to as "flexible." Thus the Examiner has not made out a prima facie case of anticipation. Also Fig. 1 of Okubo does not show elements 30 extending away from a surface of element 10. Applicants' claim 41 recites "said elongated electrical concoctors having a first end affixed to said surface" and recites "elongated electrical conductors extending away from said surface." Okubo Fig. 1 does not teach this as shown in this figure commenting on Okubo Fig I. "*

The Examiner states in response:

> With regards to elements 30, claim 41 states: "...a substrate having a surface... a plurality of elongated electrical conductors extending away from said surface..." Element 30 is connected to the top surface of board 10, which represents the substrate, by way of end 33. As shown in Fig. 1, element 30 extends downward toward IC chip 60. Base on the figure one of ordinary skill in the art may conclude that the element 30 is extending away form the top surface of board 10. Therefore, the examiner believes the prior art still reads on the claim.

Applicant respectfully disagrees with the Examiner's view that the Examiner's statement that "the prior art still reads on the claim" means that the claim is anticipated by

the cited reference. For a claim to be anticipated by the prior art the claim must read on the prior art. Moreover, it is applicants' position that a person of ordinary skill in the art would not be of the view that the Examiner's interpretation of "extending away from said surface" is a reasonable interpretation in view of applicants' teaching. In addition, Okubu et al. teaches away from applicants' teaching and claim recitation. Okubu teaches at Col. 4 lines 7-20, "The probe 30 is set on the inward slope of the upper side 22 **with a middle portion adhered by an epoxy adhesive 40** ..., and **the front L portion is extended downward into the central opening 21 to open the front tip 32 downwardly out of the under side of the supporter 20.**" (Emphasis added.) The portion of probe 30 that is marked 33 which is between solder 331 and the part of 30 that is fixed to surface 22 acts as an electrical connector from 331 to the part of 30 that is fixed to surface 22. Surface 22 is an extension of the surface that solder 331 is on. The part of 30 that is connected to 32 does not extend away from the surface 22, but extends off the edge of surface 22 in the same plane as the surface 22 and then bends downward. Thus Okubu et al. can not anticipate "extending away from said surface" as recited in the claims. The "elongated electrical conductors extending away from said surface" recited in applicants claims correspond t the probe tip 32 of Okubu which does not extend away from surface 22 of Okubu. This discussion is made clear by this marked Okubu Fig. 1.



The Examiner quotes applicants June 4, 2007 arguments stating:

> b) The applicants further argue: *"Okubo shows expanded views in Fig, 2 (a) and Fig. 2(b) of ends(32) in element 50. Element 50 does not comprise openings larger in size than the elongated electrical conductors. In fact Fig. 2(a) and 2(b) of Okubo show element 50 having openings that are the same size as the conductors 30 which result is ends 32 being in a fixed position and not in "substantially fixed positions" as recited in applicants claim 41."*

The Examiner states in response:

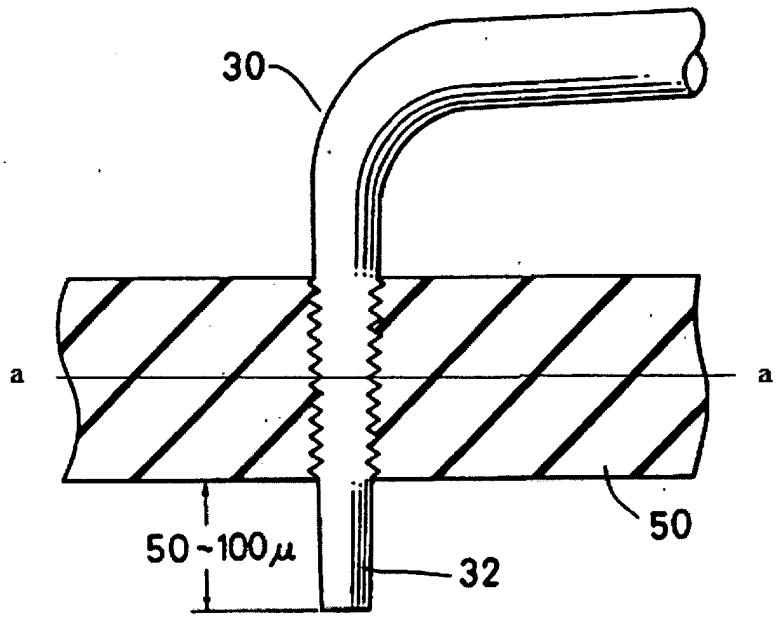
> In response to the above, the examiner disagrees. The opening of element 50 of Okubo could not be the same size to element 30. If both are the same size, then element 30 should not be inserted through element 50 to test the DUT on top of IC chip 60. Therefore, the opening in element 50 is slightly larger for element 30 to fit through for its intended purpose. Therefore, the examiner believes the prior art still reads on the claim.

The Examiner essentially repeats this argument tin the Advisory Action dated 03/028/2008. Applicants respectfully submit that this statement is not supported by the teaching of Okubo. Applicants will illustrate this by use of Okubu Fig. 2(a). The same argument applies to Okubu Fig. 2(b). The Examiner states above referring to Okubu element 30 and opening 50 "If both are the same size, then element 30 should not be inserted through element 50." The Examiner does not identify where Okubu teaches that element 30 is inserted through element 50. Applicants submit Okubu teaches to the contrary at Col 4. lines 20-27 and lines 31- 35 "the front end 32 of the probe 30 is set by the resin 50 so that a length ... is extended downward, wherein the uneven portion [ridges on 32 embedded in 50 as described below] acts to produce more attachment or integration with the resin 50" and "[r]eferring to the resin 50, if an epoxy resin is used, the opening 20 is priorly filled with a transparent film and thereon the epoxy resin is applied so as to fix the probe tip 32". Thus Okubu et al. teaches probe tip 32 is fixed in resin 50 and the ridges (uneven portions) on 32 cause it to be attached to resin 50 and the resin 50 is applied to probe tip 32. If probe tip 32 is attached to resin 50, then it cannot be true as stated by the Examiner that "the opening in element 50 is slightly larger for element 30 to fit through for its intended purpose" and if the "epoxy resin is applied so as to fix the probe tip 32" as taught by Okubu et al. it cannot be true

as asserted by the Examiner that element 30 is inserted through element 50. Thus applicants' claims cannot be anticipated by Okubu et al. These comments are made clearer by the following figures.

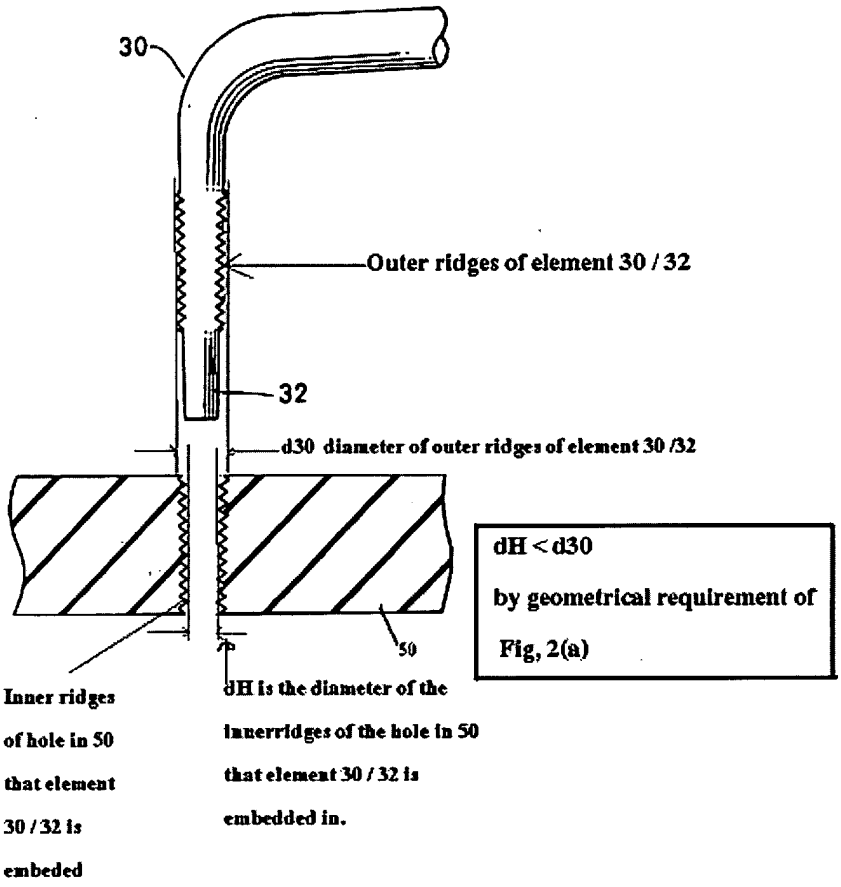
In Okubu Fig 2(a) and 2 (b) elements 30/32 is embedded in material 50. Thus material 50 is butted up against the outside surface of element 30/32. Therefore, the diameter of 30/32 along a line a—a in the Figure below is the same as the diameter of the hole in element 50 in which element 30/32 is embedded.

Fig. 2(a)



In the Figure below Okubu Fig. 2(a) is separated into parts. Element 30/ 32 is shown above the hole in 50 in which element 30/32 is embedded. It is clear from the figure below that the diameter, d30, of the outer ridges (Okubu Col. 4, line 24 cited above refers to this as the "uneven portion") of element 30/32 is larger than the diameter, dH, of the inner ridges of the hole in 50 in which the element 30/32 is embedded, i.e. d30 > dH. Thus element 30/32 cannot be inserted through element 50 as asserted by the Examiner. Thus Okubu cannot anticipate applicants' claims. An attempt to insert

element 30/32 into the hole in 50 will result in the ridges on element 30/32 being obstructed by the ridges on the hole in 50, thereby preventing element 30/32 from being inserted into the hole in 50.



In view of the remarks herein applicants respectfully request that the rejection of claims 7,10,41-43, 49, 51, 58-60 and 64-68 as being anticipate by Okubo et al under 35 U.S.C. 102(e) (5134365) be withdrawn. The Examiner has not made a prima facie case of anticipation.

Respectfully submitted,

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